

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

ERIC H. HOLMES et al.

Parent Application No.: 09/298,886
Application No.: Not Assigned Yet

Parent Filed: April 23, 1999
Filed: Herewith

For: NUCLEIC ACIDS AND
PROTEINS OF A RAT
GANGLIOSIDE GM1-SPECIFIC
ALPHA 1→2
FUCOSYLTRANSFERASE AND
USES THEREOF

Parent Exr: S. Haushal
Examiner: Not Assigned Yet

Parent Art Unit: 1633
Art Unit: Not Assigned Yet

**INFORMATION DISCLOSURE
STATEMENT**

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

The references cited on attached form PTO/SB/08A and PTO/SB/08B are being called to the attention of the Examiner. In accordance with 37 CFR §1.98(d), copies of the references can be found in Application No. 09/298,886, filed April 23, 1999 (Attorney Docket No. 20093A-002200). It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

The following articles are set forth by the indicated year of publication date:

AA. Baumann, et al., "Neutral Fucolipids and Fucogangliosides of Rat Hepatoma HTC and H35 Cells, Rat Liver, and Hepatocytes," Cancer Research 39: 2637-2643 (1979).

AB. Holmes & Hakomori, "Isolation and Characterization of a New Fucoganglioside Accumulated in Precancerous Rat Liver and in Rat Hepatoma Induced by *N*-2-Acetylaminofluorene," J. Biol. Chem. 257: 7698-7703 (1982).

AC. Holmes & Hakomori, "Enzymatic Basis for Changes in Fucoganglioside during Chemical Carcinogenesis," J. Biol. Chem. 258: 3706-3713 (1983).



AE. Nilsson, et al., "Fucosyl-G_{M1} - A Ganglioside Associated With Small Cell Lung Carcinomas," Glycoconjugate J. 1: 43-49 (1984).

AF. Fredman, et al., "Binding Specificity of Monoclonal Antibodies to Ganglioside, Fuc-G_{M1}," Biochim. Biophys. Acta 875: 316-323 (1986).

AG. Holmes & Hakomori, "The Chemical Carcinogen-Induced Enzyme, GDP-Fucose: GM₁ α 1 \rightarrow 2 Fucosyltransferase in Rat Liver and Hepatoma: Modulation by and Association with Phospholipids," J. Biochem. 101: 1095-1105 (1987).

AH. Hakomori, "Aberrant Glycosylation in Tumors and Tumor-Associated Carbohydrate Antigens," Adv. Cancer Res. 52: 257-331 (1989).

AI. Kusunoki, et al., "Discrimination of Human Dorsal Root Ganglion Cells by Anti-fucosyl GM1 Antibody," Brain Res. 494: 391-395 (1989).

AJ. Holmes, "GDP-fucose: GM₁ α 1 \rightarrow 2fucosyltransferase is Activated in Parenchymal Cells of Rat Liver During Early Stages of *N*-2-acetylaminofluorene Induced Hepatocarcinogenesis," Carcinogenesis 11: 89-94 (1990).

AK. Larsen, et al., "Molecular Cloning, Sequence, and Expression of a Human GDP-L-fucose: β -D-galactoside 2- α -L-fucosyltransferase cDNA that can Form the H Blood Group Antigen," Proc. Natl. Acad. Sci. USA 87: 6674-6678 (1990).

AL. Kusunoki, et al., "Developmental Changes of Fucosylated Glycoconjugates in Rabbit Dorsal Root Ganglia," Neurosci. Res. 15: 74-80 (1992).

AM. Henion, et al., "Defining the Minimal Size of Catalytically Active Primate α 1,3 Galactosyltransferase: Structure - Function Studies on the Recombinant Truncated Enzyme," Glycobiology 4: 193-201 (1994).

AN. Piau, et al., "Evidence of Two Distinct α (1,2)-fucosyltransferase Genes Differentially Expressed Throughout the Rat Colon," Biochem. J. 300: 623-626 (1994).

AO. Hitoshi, et al., "Molecular Cloning and Expression of Two Types of Rabbit β -Galactoside α 1,2-Fucosyltransferase," J. Biol. Chem. 270: 8844-8850 (1995).

AP. Holmes, et al., "Structure-Function Analysis of Human α 1 \rightarrow 3Fucosyltransferases," J. Biol. Chem. 270: 8145-8151 (1995).

AQ. Kelly, et al., "Sequence and Expression of a Candidate for the Human *Secretor* Blood Group α (1,2) Fucosyltransferase Gene (*FUT2*)," J. Biol. Chem. 270: 4640-4649 (1995).

AR. Hitoshi, et al., "Expression of the β -Galactoside α 1,2-Fucosyltransferase Gene Suppresses Axonal Outgrowth of Neuro2a Neuroblastoma Cells," J. Neurochem. 66: 1633-1640 (1996).

AS. Hitoshi, et al., "Molecular Cloning and Expression of a Third Type of Rabbit GDP-L-Fucose: β -D-Galactoside 2- α -L Fucosyltransferase," J. Biol. Chem. 271: 16975-16981 (1996).

AT. Koda, et al., "Structure and Expression of H-type GDL-L-Fucose: β -D-Galactoside 2- α -L-Fucosyltransferase Gene (*FUT1*)," J. Biol. Chem. 272: 7501-7505 (1997).

AU. Koda, et al., "Structure and Expression of the Gene Encoding Secretor-type Galactoside 2- α -L-fucosyltransferase (*FUT2*)," Eur. J. Biochem. 246: 750-755 (1997).

AV. Sherwood & Holmes, "Cloning and Expression of the Catalytic Domain from Rat Hepatoma H35 Cell GDP-Fucose:GM₁ α 1 \rightarrow 2 Fucosyltransferase, an Enzyme Which is Activated during Early Stages of Chemical Carcinogenesis in Rat Liver," Arch. Biochem. Biophys. 355: 215-221 (1998).

It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

Applicants believe that their invention as claimed is patentable over the above references taken alone or in any combination. However, Applicants reserve the right to demonstrate that their claimed invention was made prior to any one or more of the above-identified references. No inference should be drawn as to the pertinence of the references based on the order in which they are presented.

Applicants respectfully request that the Examiner review the foregoing references to make his own determination of the patentability of the present invention and that the references be made of record in the file of this application.

Applicant believes that no fee is required for submission of this statement, since it is being submitted prior to the first Office Action. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Eric H. Holmes, et al.
Application No.: Not Assigned Yet

PATENT

Respectfully submitted,

Dated: 1 November 2001

By: Brian W. Poor
Brian W. Poor
Reg. No. 32,928

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, CA 94111
Tel.: (206) 467-9600
Fax: (415) 576-0300
5010160v1